Drying models and quality analysis of sun-dried ciku

ABSTRACT

Sun drying of ciku (Manilkara zapota) was carried out on different sample sizes to investigate the effects on drying kinetics. It was found that the maximum drying rates of sun-dried ciku decreased with larger product size. Three sunny days are needed to dry the ciku slabs to an average final moisture content of 0.2 g H2O/g dry mass. The results showed that hardness and chewiness of the dried samples were significantly different ($p < 0.05$) compared to fresh ciku slabs and commercial dried fruit. The color measurement of dried product showed that L* and b* values significantly decreased ($p < 0.05$), whereas the a* value increase was not significantly different ($p > 0.05$) compared to fresh ciku slabs. In addition, sun-dried ciku retained a total polyphenol content (TPC) that was relatively low ($p < 0.05$) compared to fresh ciku.

Keyword: Color; Drying kinetics; Manilkara zapota; Product quality; TPA; TPC